Permit Fact Sheet

General Information

Permit Number:	**WI-0020559-08-0**	
Permittee Name:	**Village of Sussex**	
Address:	N64 W23760 Main St	
City/State/Zip:	Sussex, WI 53089	
Discharge Location:	East bank of Spring (Sussex) Creek, at the southwest corner of the Sussex WWTF (Lat: 43.12409° N Long: 88.21785° W)	
Receiving Water:	Spring (Sussex) Creek (Upper Fox (IL) River Watershed, Fox (IL) River Basin) in Waukesha County	
StreamFlow ($Q_{7,10}$):	0.23 cfs	
Stream Classification:	Warm water sport fish community, non-public water supply	
Design Flow(s)	Daily Maximum	12.75 MGD (facility plan, 2005)
	Weekly Maximum	8.58 MGD (design flow worksheet)
	Monthly Maximum	7.08 MGD (design flow worksheet)
	Annual Average	5.1 MGD (facility plan, 2005)
Significant Industrial Loading?	Yes, as stated in the 2019 permit application, there are two significant industrial users: Nature's Path Organic Cereal and Quadgraphics.	
Operator at Proper Grade?	Yes. Plant is rated as an Advanced facility with subclasses A1, B, C, P, D, L, and SS	
Approved Pretreatment Program?	N/A	

Facility Description

The Village of Sussex operates a 5.1 MGD wastewater treatment plant with a design capacity of 6,790 lbs/day BOD. The plant serves approximately 15,900 people and 2 significant industries including the Village of Sussex; the Village of Lannon; a portion of the Village of Menomonee Falls; and the Lisbon Sanitary District. The plant has a mechanical bar screen, grit removal, a 3-ring extended aeration (Orbal) oxidation ditch, three final clarifiers, four tertiary anthracite filters, and seasonal disinfection with ultraviolet light. Polyaluminum chloride is added at the central ring of the ditch for phosphorus removal. Effluent is discharged to the east bank of Spring (Sussex) Creek, southwest of the treatment facility. Spring Creek (WBIC 773400) is known locally as Sussex Creek. In previous permits, the receiving water was identified as Sussex Creek, however, the current permit references Spring Creek to align with the official waterbody name as listed in the Department's Register of Waterbodies. Waste sludge from clarifiers is pumped into the gravity thickener and then to a sludge storage tank. Biosolids are land applied onto Department approved agricultural fields.

The Department has found the facility to be in substantial compliance with the current permit.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
701	Flow 2.51 MGD; BOD 152.20 mg/L; TSS 171.49 mg/L (All Oct 2014- May 2019 avg)	INFLUENT: 24-hour flow proportional composite samples shall be collected at the influent pipe, after screening and grit removal.
001	Flow 1.96 MGD; BOD 2.11 mg/L; TSS 1.55 mg/L (All Oct 2014-May 2019 avg)	EFFLUENT: 24-hour flow proportional composite samples shall be collected just prior to disinfection. Grab samples shall be collected at the outfall channel flume, prior to discharge.
002	370 dry US tons generated annually (2018)	Class B, aerobically digested and gravity thickened liquid sludge. Representative samples shall be collected from the sludge mixing/truck fill pump sample line.
102	N/A	FIELD BLANK: Collect mercury field blank using standard sample handling procedures.

1 Influent - Proposed Monitoring

1.1 Sample Point Number: 701- INFLUENT PLANT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
Suspended Solids, Total		mg/L	4/Week	24-Hr Flow Prop Comp	
BOD5, Total		mg/L	4/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Annual	24-Hr Flow Prop Comp	See 'Mercury Monitoring' section in permit.

1.1.1 Changes from Previous Permit:

No changes from previous permit.

1.1.2 Explanation of Limits and Monitoring Requirements

BOD5 and Total Suspended Solids: Tracking of BOD5 and suspended solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and in the standard requirements section of the permit.

Mercury, Total Recoverable: Mercury monitoring is included in the proposed permit pursuant to s. NR 106.145, Wis. Adm. Code. Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

2 Inplant - Proposed Monitoring and Limitations

2.1 Sample Point Number: 102- Mercury Field Blanks

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Annual	Blank	See 'Mercury Monitoring' section in permit.

2.1.1 Changes from Previous Permit:

No changes from previous permit.

2.1.2 Explanation of Limits and Monitoring Requirements

Mercury, Total Recoverable: Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water - Proposed Monitoring and Limitations

3.1 Sample Point Number: 001- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
BOD5, Total	Weekly Avg	10 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective November through April.
BOD5, Total	Weekly Avg	5.0 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective May through October.
BOD5, Total	Monthly Avg	10 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective November through April.
BOD5, Total	Monthly Avg	5.0 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective May through October.
Suspended Solids, Total	Weekly Avg	10 mg/L	4/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	10 mg/L	4/Week	24-Hr Flow Prop Comp	
pH Field	Daily Min	6.0 su	Daily	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field	Daily Max	9.0 su	Daily	Grab	
Dissolved Oxygen	Daily Min	7.0 mg/L	Daily	Grab	
Nitrogen, Ammonia (NH3-N) Total	Daily Max	6.7 mg/L	4/Week	24-Hr Flow Prop Comp	Year round.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	6.7 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective October through April.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	4.8 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective May through September.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	5.0 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective November through March.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	3.2 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective in April.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	1.9 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective May through September.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	3.8 mg/L	4/Week	24-Hr Flow Prop Comp	Limit effective in October.
Fecal Coliform	Geometric Mean – Wkly	780 #/100 ml	2/Week	Grab	Limit effective May through September.
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	Limit effective May through September.
Phosphorus, Total	Monthly Avg	0.6 mg/L	4/Week	24-Hr Flow Prop Comp	This is an interim limit. Final limits become effective on October 1, 2021. See Schedules section in permit.
Phosphorus, Total	Monthly Avg	0.225 mg/L	4/Week	24-Hr Flow Prop Comp	Final limit becomes effective October 1, 2021. See Schedules section in permit.
Phosphorus, Total	6-Month Avg	0.075 mg/L	4/Week	24-Hr Flow Prop Comp	Final limit becomes effective October 1, 2021. See Schedules section and Standard Requirements section in permit for six-month average calculation and reporting.
Phosphorus, Total	6-Month Avg	3.2 lbs/day	4/Week	Calculated	Final limit becomes effective October 1, 2021.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					See Schedules section and Standard Requirements section in permit for six-month average calculation and reporting.
Mercury, Total Recoverable		ng/L	Annual	Grab	See 'Mercury Monitoring' section in permit.
Chloride	Weekly Avg	511 mg/L	4/Month	24-Hr Flow Prop Comp	This is an interim limit effective December through April. Sampling shall be done on four consecutive days one week per month. See Chloride Variance section and the Schedules section in permit for applicable chloride target value.
Chloride	Weekly Avg	500 mg/L	4/Month	24-Hr Flow Prop Comp	This is an interim limit effective May through November. Sampling shall be done on four consecutive days one week per month. See Chloride Variance section and the Schedules section in permit for applicable chloride target value.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See 'WET Testing' section in permit.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See 'WET Testing' section in permit.
Temperature Maximum		deg F	3/Week	Continuous	Monitoring during calendar year 2023. (January 1 – December 31)
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	

3.1.1 Changes from Previous Permit

pH: The sample type for pH Field was changed from Grab Composite to Grab to more accurately reflect current sampling practices.

Fecal Coliform: A weekly geometric mean of 780 #/100mL was added to the proposed permit as part of changes to the procedures in ch. NR 106, Wis. Adm. Code.

Total Phosphorus: The existing interim limit of 0.85 mg/L was reduced to 0.6 mg/L and is included as an interim limit in the proposed permit. The final water quality based effluent limits are 0.075 mg/L and 3.2 lbs/day as a six-month average and 0.225 mg/L as a monthly average specified in conjunction with the Phosphorus schedule and are effective October 1, 2021.

Ammonia Nitrogen: The existing daily maximum limit of 11.4 mg/L was decreased to 6.7 mg/L. The existing weekly average limit of 7.8 mg/L for April was reduced to 6.7 mg/L. The existing weekly average limit of 9.5 mg/L for October was reduced to 6.7 mg/L. The existing weekly average limit of 12.5 mg/L for November-March was reduced to 6.7 mg/L.

Chloride: The existing weekly average target limit of 420 mg/L was increased to 460 mg/L.

Nitrogen Series Monitoring: Total Kjeldahl Nitrogen and Total Nitrate + Nitrate Nitrogen monitoring was added to the Monitoring Requirements and Limitations table to reflect current monitoring practices.

3.1.2 Explanation of Limits and Monitoring Requirements

Categorical Limits

- **BOD5, Total Suspended Solids, pH, Dissolved Oxygen, and Fecal Coliforms:** Standard municipal wastewater requirements for BOD5, total suspended solids, dissolved oxygen, pH, and fecal coliforms are included based on ch. 210, Wis. Adm. Code 'Sewage Treatment Works' requirements for discharges to fish and aquatic life streams. Chapter NR 102, Wis. Adm. Code 'Water Quality Standards for Surface Waters' also specifies requirements for pH for fish and aquatic life streams.

  Regulatory changes to s. NR 205.065, Wis. Adm. Code, became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable. These changes are based on 40 CFR 122.45 (d). Minor changes have been made to fecal coliform limitations from the previous permit in order to comply with this regulation.

Water Quality Based Limits and WET Requirements and Disinfection

Refer to the WQBEL memo for the detailed calculations, prepared by Nicole Kreuger, dated June 12th, 2019, and used for this reissuance.

- **Total Phosphorus:** The proposed permit will be Sussex's second permit term under new administrative rules for phosphorus discharges that took effect December 1, 2010. Details regarding the administrative rules for phosphorus discharges may be found at: http://dnr.wi.gov/topic/surfacewater/phosphorus.html. The new phosphorus rules are contained in s. NR 102.06 and ch. NR 217, Subchapter III. Sussex's final water quality based effluent limits (WQBELs) for phosphorus are 0.075 mg/L and 3.2 lbs/day as a six-month average and 0.225 mg/L as a monthly average and are effective October 1, 2021. A 0.6 mg/L monthly average interim limit is included and is effective until October 1, 2021.
- **Ammonia Nitrogen:** Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Tables 2C and 4B of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for ammonia (effective March 1, 2004). Regulatory changes to s. NR 205.065, Wis. Adm. Code, became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable.

- **Chloride:** The 1-day P_{99} effluent concentration for chloride is below the applicable acute limitation, so a daily maximum limit is not required. Because the 4-day P_{99} exceeds the calculated weekly average WQBEL, an effluent limit of 396 mg/L is needed in accordance with s. NR 106.05(4)(b), Wis. Adm. Code. However, the permittee has re-applied for a variance from the chloride water quality criterion, which requires EPA approval. An interim limit of 500 mg/L for May-November and 511 mg/L for December -April as a weekly average is included. As a condition of this variance, a weekly average target value of 460 mg/L, and the implementation of chloride source reduction measures intended to lead to compliance with the target value by the end of the permit term, are also included in the proposed permit. The weekly average target limit was increased to 460 mg/L to reflect a target limit between 10-15% below the interim limit. See the Schedules section for the chloride schedule. Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in Tables 1 and 5 of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106, Wis. Adm. Code, establishes the procedure for calculating water quality based effluent limitations (WQBELs) for chloride.

  Chloride Source Reduction Measures:

  1. Continue to provide education to residents and businesses on the effects of excessive chloride use and the role of water softeners and road salt application by providing information at the Village Hall, satellite community kiosks, village website, and in the village newsletter. Include letters with utility mailings to encourage reduction of water softener discharges.

  2. Bring awareness to residents on the effects of excessive chloride use by providing an information booth at National Night Out event. Evaluate success of event for future improvements.

  3. Continue to educate village staff on responsible salt and brine use, efficient application, and cleanup procedures.

  4. Continue to sample and monitor commercial, industrial, and hauled wastes for high chloride discharges, including low and high-volume water users.

  5. Continue to take actions that prevent chloride from reaching the sewer system. Find and correct inflow and infiltration issues by lining Silver Spring and Main Street pipe, repairing manholes and following CMOM guidelines.

  6. Continue brine application for anti-icing during winter road conditions.

  7. Identify proper placement for snow piles to prevent snowmelt and runoff from draining to the sewer system.

  8. Gather data on water softener use in the Village, including number of users and type (time or Demand Initiated Regeneration). Update the “Cross Connection Survey” and gather data by issuing annually.

  9. Contact the Village’s largest water users, including: public schools, apartment buildings, industries, and any new users. Emphasize water softener regeneration optimization, responsible use of softened water connections, or installation of brine reclamation systems.

  10. Explore adoption of a local regulation in the Village of Lannon to require bypass of water softener systems where softening is not essential, such as outside hose-bib use for landscape irrigation. Contact the Village of Lannon, provide examples, and advance discussions as needed.

11. Explore adoption of a local regulation to require Demand Initiated Regeneration (DIR) water softeners for new installations and replacements and present to Village Board. Discuss potential adoption of regulations with satellite communities.

12. Develop a residential water softener inspection and optimization program. Include incentives for residents, encourage participation of water softener companies and contractors, and notify residents of the new program. Evaluate program successes for future program improvements.

- **Mercury:** Representative data show there is no reasonable potential for Sussex to exceed the water quality-based 1.3 ng/L monthly average limit, therefore, no mercury limit is recommended in the proposed permit. Annual monitoring is included in the proposed permit and will be combined with data from previous permit terms to determine the need for limits at the next reissuance. Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code (effective November 2002).
- **Temperature Maximum:** Available temperature data indicated the apparent need for sub-lethal weekly average temperature limitations for the months of November through January, pursuant to the procedures of ch. NR 106, Wis. Adm. Code. Therefore, sub-lethal weekly average effluent limitations should be included in the proposed permit. However, s. NR 106.59(4), Wis. Adm. Code, allows publicly operated treatment works to perform a dissipative cooling (DC) demonstration which, if successful, justifies exclusion of sub-lethal weekly average effluent temperature limits in municipal discharge permits. Sussex submitted a dissipative cooling request and stream study performed on November 19, 2013, which was approved by the Department. The permittee has stated that there have not been any significant changes in operation or thermal loadings to the receiving water.

  The proposed permit includes monitoring 3 times per week for the entire fourth year of the permit term and that data can be used for evaluation at the next permit reissuance. In addition, dissipative cooling requests must be re-evaluated every permit reissuance. The permittee is responsible for submitting an updated DC request as part of the next permit application. Such a request must either include:

  a) A statement by the permittee that there have been no substantial changes in operation of, or thermal loadings to, the treatment facility or the receiving water; or

  b) New information demonstrating DC to supplement the information used in the previous DC determination. If significant changes in operation or thermal loads have occurred, additional DC data must be submitted to the Department.
- **Total Nitrogen Monitoring (NO2+NO3, TKN and Total N):** Based on the "Guidance for Total Nitrogen Monitoring in WPDES Permits" dated October 2012, quarterly effluent monitoring for Total Nitrogen is required for municipal majors discharging to the Mississippi River Basin.
- **Whole Effluent Toxicity**: Whole effluent toxicity (WET) testing requirements are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html). Annual Acute and Chronic WET tests are scheduled in the following rotating quarters:
  - **Acute:** April-June 2020; July-September 2021; October-December 2022; January-March 2023; April-June 2024
  - **Chronic:** April-June 2020; July-September 2021; October-December 2022; January-March 2023; April-June 2024

4 Land Application - Proposed Monitoring and Limitations

Municipal Sludge Description						
Sample Point	**Sludge Class (A or B)**	**Sludge Type (Liquid or Cake)**	**Pathogen Reduction Method**	**Vector Attraction Method**	**Reuse Option**	**Amount Reused/Disposed (Dry Tons/Year)**
002	B	Liquid	Fecal Coliform	Injection	Land Application	370 dry U.S. Tons
Does sludge management demonstrate compliance? **Yes**						
Is additional sludge storage required? **No**						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? **Yes** If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? **No**						

4.1 Sample Point Number: 002- Liquid Sludge

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Grab	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Grab	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Grab	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Grab	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Grab	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Grab	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Grab	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Grab	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Grab	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Grab	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Grab	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Grab	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Grab	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Grab	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Grab	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Grab	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Radium 226 Dry Wt		pCi/g	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Grab	
Nitrogen, Ammonium (NH4-N) Total		Percent	Quarterly	Grab	
Potassium, Total Recoverable		Percent	Quarterly	Grab	
Phosphorus, Total		Percent	Quarterly	Grab	
Phosphorus, Water Extractable		Percent	Quarterly	Grab	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Grab	
Solids, Total		Percent	Quarterly	Grab	
PCB Total Dry Wt		mg/kg	Once	Grab	Once in 2021. See PCB section below.

4.1.1 Changes from Previous Permit:

The Municipal Sludge Priority Pollutant Scan was removed from the proposed permit. The scan is required once every ten years for facilities with design flows between 5 MGD and 40 MGD and was conducted during the previous permit term.

4.1.2 Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k). Radium requirements are addressed in s. NR 204.07(3)(n).

Land application of waste shall be done in accordance with the permit conditions and applicable codes. All land application sites shall be approved prior to their use. To receive a list of approved sites, or to be notified of potential approvals, contact the WDNR compliance staff.

5 Schedules

5.1 Chloride Target Value

As a condition of the variance to the water quality based effluent limitation(s) for chloride granted in accordance with s. NR 106.83(2), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Chloride Progress Report: Submit an annual chloride progress report. The annual chloride	01/31/2020

progress report shall: Indicate which chloride source reduction measures or activities in the approved Source Reduction Plan have been implemented; Include an analysis of trends in weekly, monthly and annual average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data; and Include an analysis of how influent and effluent chloride varies with time and with significant loadings of chloride such as loads from industries or road salt intrusion into the collection system. Note that the interim limitation of 511 mg/L for the months of December through April and 500 mg/L for the months of May through November remain enforceable until new enforceable limits are established in the next permit issuance. The first annual chloride progress report is to be submitted by the Date Due.	
Annual Chloride Progress Report #2: Submit the chloride progress report as defined above.	01/31/2021
Annual Chloride Progress Report #3: Submit the chloride progress report as defined above.	01/31/2022
Annual Chloride Progress Report #4: Submit the chloride progress report as defined above.	01/31/2023
Final Chloride Report: Submit the final chloride report documenting the success in meeting the chloride target value of 460 mg/L, as well as the anticipated future reduction in chloride sources and chloride effluent concentrations. The report shall summarize chloride source reduction measures that have been implemented during the current permit term and state which, if any, source reduction measures from the approved Source Reduction Plan were not pursued and why. The report shall include an analysis of trends in weekly, monthly and annual average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data covering the current permit term. The report shall also include an analysis of how influent and effluent chloride varies with time and with significant loadings of chloride such as loads from industries or road salt intrusion into the collection system. Additionally, the report shall include proposed target values and source reduction measures for negotiations with the department if the permittee intends to seek a renewed chloride variance per s. NR 106.83, Wis. Adm. Code, for the reissued permit. Note that the target value is the benchmark for evaluating the effectiveness of the chloride source reduction measures but is not an enforceable limitation under the terms of this permit.	06/30/2024
Annual Chloride Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual chloride reports each year covering source reduction measures implemented and chloride concentration and mass discharge trends.	

5.1.1 Explanation of Schedule

Chloride Target Value

This compliance schedule is a condition of receiving a variance from the chronic water quality-based chloride limit of 396 mg/L. Since a compliance schedule is being granted, an interim limit is required, and for Sussex the limits are established at 511 mg/L (December – April) and 500 mg/L (May-November). The schedule requires that annual reports shall indicate which source reduction measures Sussex has implemented during each year, and an analysis of chloride concentration and mass discharge data based on chloride sampling and flow data. The annual reports shall document progress made towards meeting the chloride target value of 460 mg/L by the end of the permit term.

5.2 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Optimization Plan: The permittee shall prepare an Optimization Plan and submit it for Department approval. The plan shall include an evaluation of collected effluent data, possible source reduction measures and operational improvements to optimize performance to control phosphorus discharges. The plan shall contain a schedule for implementation of the measures and improvements. Once the plan is approved by the Department, the permittee shall take the steps called for in the Optimization Plan and follow the schedule for implementation as approved.	03/31/2020
Status Report: The permittee shall submit a report on the status of achieving compliance with the final water quality-based effluent.	03/31/2021
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs.	10/01/2021

5.2.1 Explanation of Schedule

Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

This schedule requires Sussex to continue to optimize phosphorus removal at the treatment plant and submit progress reports on the status of achieving compliance with the final water quality based effluent limits.

Attachments:

Substantial Compliance Determination dated July 2, 2019 and prepared by Nick Lent

Water Quality Based Effluent Limitations for the Sussex Wastewater Treatment Facility dated July 22, 2019 and prepared by Nicole Krueger

Proposed Expiration Date:

December 31, 2024

Justification Of Any Waivers From Permit Application Requirements

No waivers were given from permit application requirements.

Prepared By: Lisa Creegan, Wastewater Specialist

Date: August 14, 2019

Revised Date (post fact check): September 3, 2019

Revised Date (post public notice):